Trove of Information From the 1930s, Animated by the Internet

By JENNIFER SCHUESSLER

In 1932, when Charles O. Paullin published his monumental Atlas of the Historical Geography of the United States, reviewers were overwhelmed by its nearly 700 maps covering seemingly every facet of the country's social, economic and political life, including maps, then novel, showing county-by-county results for presidential elections going back to the beginning of the Republic.

But the atlas, by its creator's admission, was missing one thing — motion. "The ideal historical atlas might well be a collection of motion-picture maps," Paullin's editor and main collaborator, John K. Wright, wrote in the introduction, "if these could be displayed on the pages of a book without the paraphernalia of projector, reel and screen."

Historians and everyday Internet time wasters have long since become used to animated maps, covering topics ranging from a four-minute recap of the Civil War to the global distribution of tweets about Beyoncé's new album. Now, modern bells and whistles have also come to Paullin's atlas. A souped-up online version has just been released by the University of Richmond's Digital Scholarship Lab, bringing what some historians still consider a work of unsurpassed scope into the age of the iPad.

"Paullin's maps show ordinary people making a living, moving across the landscape, worshiping at churches, voting in elections," said Robert K. Nelson, the director of the Digital Scholarship Lab. "They covered so many topics that there's really something for everyone."

Paullin's atlas was hailed in 1932 for the imaginative ways it showed change over time. The new site's digital enhancements bring that sense of movement to further life, allowing users to pull up the fine-grained data behind many maps (most of which have been georectified, or warped to align accurately with a modern digital map), or just sit back and watch as animation shows, say, the march of women's suffrage or other social reforms.

"We live in history the way fish live in water," said Edward L. Ayers, the founder of the Digital Scholarship Lab and a senior consultant on the project. "It's invisible to us, but a historical atlas can give us a sense of coherence of the larger pattern."

The digital Paullin arrives at what seems like a fortuitous moment. In recent years, scholars have paid increasing attention to the spatial aspects of history, using sophisticated Geographic Information Systems technology to reveal previously unseen patterns of change. The Richmond lab's 2012 Visualizing Emancipation project, for example, plots out intricate interactions between federal policy, the Union and Confederate Armies, and thousands of enslaved people, illuminating how liberation unfolded on the ground.

At the same time, other researchers are taking a fresh look at old maps, exploring how they represent not just changes in the nation's boundaries and places, but also deeper shifts in its self-understanding.

In the 19th century, maps became "a new kind of tool — not just a way-finding device, a map of what we know, but something that opened up new questions," said Susan Schulten, a historian at the University of Denver and the author

of "Mapping the Nation: History and Cartography in 19th-Century America." Instead of just showing geographical features, works like Francis Walker's 1874 Statistical Atlas of the United States — the first national atlas anywhere in the world based on census data — layered different kinds of information onto the landscape.

Paullin's atlas, published nearly 50 years later, was "a culmination," Ms. Schulten said, of that new statistical cartography. It was also a herculean effort. Dozens of researchers, assembled by the Carnegie Institute, spent nearly 20 years painstakingly culling and plotting out data from census records, newspapers, local archives and other far-flung sources, acknowledged in 145 pages of detailed notes.

There were some 50 historical maps going back to 1492, and more than 600 new maps, beginning with the natural environment and moving on to territorial expansion, settlement patterns, transportation, slavery, the development of political parties, the spread of churches and universities, and shifts in wealth distribution.

Place names were largely omitted, to keep the focus on broader patterns. One map shows shifts in the geographical center of the nation's population, both as a whole and broken down for whites, blacks, immigrants and urban vs. rural dwellers. (The animated version on the digital site shows the center for African-Americans drifting south and west after the Civil War, before abruptly moving northeast in 1920 — the beginnings of the Great Migration, Mr. Nelson said.)

Another series of maps, still regularly reproduced in textbooks and on blogs, shows how long it would have taken a traveler to reach any point in the United States from New York City in 1800, 1830, 1857 and 1930.

"It's so far ahead of its time," Mr. Ayers said. "It suggests how people experienced geography. You could ask, 'What would it mean for a family to move to Kansas?' "

The digital Paullin is only a prelude to the Richmond group's next effort: an entirely new digital atlas, to be completed over a decade or so. This "Paullin for the 21st century," supported with an initial grant of $750,000 from the Andrew W. Mellon Foundation, will update some aspects of the earlier work — Paullin's treatment of Native Americans, Mr. Nelson said, was "pretty horrible." It might also spice up some topics that can be, well, a little boring.

Take canals. "Most canal maps just show skeletal remains," Mr. Nelson said. "But by animating them and showing what and passed through them, we can show them as vital arteries rather than desiccated bones."

The atlas will also cover the last 80 years of history, including topics like the Interstate Highway system, the civil rights movement, growing American military power and the rise of the Internet. While the country, and cartography, have changed since 1932, both the old and new work share a fundamental democratic spirit, Mr. Ayers said.

"A historical atlas enfranchises the whole nation," he said. "Anyone can look at it and say that even here, in some history-less suburb, this was part of the unfolding."